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May 5, 1995

BY HAND DELIVERY

Mr. William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, DC 20554

RE: ET Docket No. 95-18

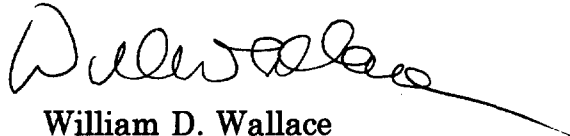
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Dear Mr. Caton:

Transmitted herewith for filing with the Commission on behalf of Loral/QUALCOMM Partnership, L.P. are an original and four copies of its "Comments" in the above-referenced docket.

Should there be any questions regarding this matter, please communicate with this office.

Respectfully submitted,


William D. Wallace

Enclosures

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ORIGINAL

Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
)
Amendment of Section 2.106)
of the Commission's Rules)
to Allocate Spectrum at 2 GHz for)
Use by the Mobile-Satellite Service)
_____)

ET Docket No. 95-18
RM-7927

MAY 5 1995

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COMMENTS

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Dated: May 5, 1995

SUMMARY

Loral/QUALCOMM Partnership, L.P. (LQP), supports the Commission's proposal to allocate 70 MHz of 2 GHz spectrum for the Mobile-Satellite Service. An allocation of 70 MHz is the minimum needed to meet the future demand for MSS. Although LQP supports the proposed allocation at 1990-2025 MHz and 2165-2200 MHz, LQP recommends that the Commission defer final action on the specific allocation pending the conclusion of the 1995 World Radiocommunication Conference. The Commission has proposed to present recommendations for MSS at 2 GHz at the conference. Given the impact that international decisions on the 2 GHz allocation would have on the United States allocation, deferral of final action in this proceeding is the most logical course.

LQP, however, recommends that the Commission take action now to initiate the transition of the proposed MSS bands from terrestrial uses to MSS. A freeze should be placed on acceptance of applications for new stations except on a secondary basis. A schedule should be established for modifying existing stations to secondary status and proposing migration frequencies in renewal applications. Such actions should be taken now in order to ensure an effective and efficient transition.

LQP objects to the proposal to adopt the PCS relocation plan for MSS as illogical and not feasible. Because of the complexities involved in relocation, LQP recommends that a Federal Advisory Committee be convened to analyze issues related to frequency migration and provide information on a transition plan for

the Commission's consideration. The issues surrounding relocation are complex and require study by all interested parties. For example, the Commission should reconsider whether migration of broadcast auxiliary stations into like spectrum and bandwidth is necessary. Consideration should be given to whether existing broadcast auxiliary stations in the 1990-2025 MHz band can be accommodated in the remaining 85 MHz of spectrum assigned for mobile TV pickup stations and/or whether digital technology would offer more efficient operation for such stations. Moreover, analyses should be conducted for the potential of sharing of spectrum by terrestrial microwave and MSS stations.

Assigning costs of relocation to MSS providers also raises complicated issues. Unlike PCS, there is no one-to-one correspondence between an existing broadcast auxiliary or terrestrial microwave station and a "displacing MSS provider." MSS licenses are granted on a national basis, and the spectrum assignments may not correspond to those of any particular broadcast auxiliary or terrestrial microwave facility. The Commission must also consider issues such as how foreign MSS systems seeking to operate in the United States would be assigned a share of the costs. The many questions raised by the transition plan can best be resolved in the context of a Federal Advisory Committee.

With respect to service and technical rules, LQP recommends that the Commission defer decisions on these issues until after the allocation issues have been resolved. LQP urges the Commission to continue pursuing adoption of sufficient MSS allocations to include MSS feeder links in order to avoid the

problems which have been encountered in locating appropriate feeder links for the MSS Above 1 GHz applicants.

LQP opposes any specific allocation for Celsat's hybrid PCS system. Dual mode terminals can be used for PCS/cellular and MSS operation; therefore, another allocation for a terrestrial service is not needed. Celsat's proposal would not be an efficient use of spectrum resources.

LQP recommends that the Commission not adopt auction rules for 2 GHz MSS at this time. Auctions for MSS generally should be avoided if possible. Unlike PCS, it is difficult to develop an appropriate auctionable unit for MSS. Moreover, the Commission should tailor any licensing procedure to the MSS proposals for 2 GHz, rather than imposing a certain system design through adoption of an arbitrary auction format. The Commission should allow parties to file applications for the 2 GHz MSS allocation and then decide whether and what type of auction is needed.

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Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)	
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Amendment of Section 2.106)	ET Docket No. 95-18
of the Commission's Rules)	RM-7927
to Allocate Spectrum at 2 GHz for)	
Use by the Mobile-Satellite Service)	
_____)	

To: The Commission

COMMENTS OF LORAL/QUALCOMM PARTNERSHIP, L.P.

Pursuant to Section 1.415 of the Commission's Rules, Loral/QUALCOMM Partnership, L.P. (LQP), hereby submits its initial comments on the Notice of Proposed Rule Making, FCC 95-39 (released Jan. 31, 1995) (NPRM), in this proceeding. LQP was recently authorized to construct, launch and operate GLOBALSTAR, a low-earth orbiting satellite system, to provide Mobile-Satellite Service (MSS) in both domestic and global markets using the 1.6/2.4 GHz bands.¹ Accordingly, LQP has a substantial interest in this proceeding.

LQP generally supports the Commission's proposed new allocation for MSS at 2 GHz. LQP anticipates that demand for its authorized GLOBALSTAR services as well as for MSS generally will exceed the capacity of first-generation Big LEO systems in approximately 10 years, and so, such an allocation is needed for MSS.

¹ Loral/Qualcomm Partnership, L.P., DA 95-128 (released Jan. 31, 1995).

However, LQP recommends that the Commission reconsider the proposals in the NPRM regarding the procedures to be used to make 2 GHz spectrum available for MSS. The new MSS allocation is premised on a relocation plan for two existing terrestrial services, which would involve substantial costs and administrative burdens before MSS could be implemented. The administrative and economic burdens of these implementation procedures would discourage development of MSS at 2 GHz in a competitive licensing environment. Indeed, if adopted, the proposals in the NPRM would not permit the Commission and the MSS industry to achieve the goals this proceeding, i.e. "to create opportunities to provide the public, especially rural Americans, with access to new and competitive services and technologies; stimulate economic development; and, create high technology jobs in the United States." NPRM, ¶ 1. As a potential applicant for 2 GHz MSS, LQP outlines in these comments several recommendations to reevaluate these procedures to accommodate more effectively the transition to MSS and the interests of the incumbent users, MSS industry, and the public.

I. THE COMMISSION SHOULD ALLOCATE AT LEAST 70 MHZ FOR MSS AT 2 GHZ, BUT SHOULD DEFER ACTION ON THE SPECIFIC ALLOCATION UNTIL AFTER WRC-95.

LQP supports the proposed allocation of at least 70 MHz for MSS rather than the 40 MHz or 60 MHz alternatives. See NPRM, ¶ 15. A bandwidth of 70 MHz appears to be the minimum amount which would be required to support the demand for second-generation MSS systems. The 70 MHz allocation also would

give the Commission more flexibility in developing a licensing plan and promoting competition through multiple entry.

LQP also recommends that the Commission defer action on the specific bands to be allocated until after the results of WRC-95 are known. The United States allocation would be affected by the decisions on 2 GHz to be discussed at WRC-95, and so, it is logical to defer this proceeding until the conference has concluded. However, LQP supports taking steps now to initiate a transition plan for relocation of existing terrestrial systems from the bands in the anticipated 2 GHz allocation for MSS.

A. The Commission Should Allocate 70 MHz of Spectrum for MSS.

LQP supports the allocation of 70 MHz for MSS and the proposal for this allocation to be placed in the 1990-2025 MHz (Earth-to-space) and 2165-2200 MHz (space-to-Earth) bands. NPRM, ¶ 8. This allocation is nearest in quantity to the bandwidth allocated at the 1992 World Administrative Radio Conference (WARC-92) for MSS (1970-2010 MHz Earth-to-space; 2160-2200 MHz space-to-Earth), and is the minimum required to meet the needs of second generation Big LEO systems and other national and global MSS systems.

As the Commission recognizes, the WARC-92 allocation for 2 GHz MSS is no longer feasible in the United States as a result of the domestic PCS

allocations.² NPRM, ¶ 2. However, the Commission has proposed international allocations for the upcoming 1995 World Radiocommunication Conference (WRC-95) which would conform to the Commission's proposed domestic 2 GHz MSS allocations.³ Although LQP believes the U.S. may encounter substantial difficulty at WRC-95 in obtaining revisions to the international MSS allocations, it nevertheless supports such efforts in light of the U.S. domestic PCS allocations.

The Commission has recognized the critical need for more spectrum to accommodate the growing MSS industry in several different proceedings by: supporting MSS allocations at WARC-92;⁴ adopting allocations and rules for Big LEO systems;⁵ licensing three Big LEO systems;⁶ and now proposing the 2 GHz MSS allocations.⁷ The need for MSS spectrum is also amply supported in both the

² See Second Report and Order in the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services (GEN Docket No. 90-314), 8 FCC Rcd 7700 (1993), modified, Memorandum Opinion and Order, 9 FCC Rcd 4957 (1994).

³ In the Matter of Preparation for International Telecommunication Union World Radiocommunication Conferences, FCC 95-36 (released Jan. 31, 1995).

⁴ Report re Preparation for International Telecommunication Union World Administrative Radio Conference, 6 FCC Rcd 3900, 3906-08 (1991).

⁵ Report and Order (ET Docket No. 92-28), 9 FCC Rcd 536 (1994); Report and Order (CC Docket No. 92-166), 9 FCC Rcd 5936 (1994).

⁶ Loral/Qualcomm Partnership, L.P., DA 95-128 (released Jan. 31, 1995); Motorola Satellite Communications, Inc., DA 95-131 (released Jan. 31, 1995); TRW Inc., DA 95-130 (released Jan. 31, 1995).

⁷ In its Petition for Rule Making (at 4), TRW points out that there is a critical need for additional spectrum for MSS, noting that the MSS Above 1 GHz Negotiated Rulemaking Committee had determined "that there was insufficient spectrum at 1610-1626.5 MHz and 2483.5-2500 MHz to accommodate all the

report of the recently concluded 1995 ITU WRC-95 Conference Preparatory Meeting (CPM) and in the report of Informal Working Group 3 to the Commission's Industry Advisory Committee in preparation for WRC-95.

These reports estimate that the total spectrum requirements for MSS, including the amount of spectrum required in both the Earth-to-space and space-to-Earth direction, will range from approximately 150 MHz to 300 MHz by the year 2005.⁸ These estimated spectrum requirements cover both handheld and non-handheld MSS systems. The estimates in these reports are based on demand projections for MSS service and the bandwidth required to support such use.

It is estimated that MSS subscribers will grow from a base of 3-4 million subscribers in the year 2002 to 8-13 million by the year 2005, to 22-37 million subscribers by the year 2010.⁹ The market for MSS to handheld units is expected to be particularly large because MSS systems such as the Big LEO systems will be interconnected into existing terrestrial cellular systems and will extend wireless telecommunications services to rural areas where none is now available. In addition, the Big LEO systems will provide communications coverage to the 85 per cent of the world's land mass where, by the year 2010, terrestrial cellular service will still not be available.¹⁰

current MSS system applicants."

⁸ IWG-3 Report, at 9 (April 14, 1995).

⁹ Id. at 5.

¹⁰ Id.

From these projected subscriber forecasts, models have been developed which convert an average number of minutes per subscriber (800-1200 per year) into units of measure of the amount of spectrum required. These estimates use traditional CCITT methods of converting minutes of traffic into the estimated mean amount of capacity required during busy hours.¹¹

This demand must be met by new allocations. Although there are several spectrum segments currently allocated for MSS, there is substantial variation in the availability of the bands for use by new MSS systems, particularly global systems such as the Big LEO systems, which are expected to provide the largest growth area for MSS. Current restrictions on MSS allocations include, for example, restrictions on use for Maritime-Mobile and Aeronautical-Mobile services, requirements for integration with the Global Maritime Distress and Safety System (which is impractical for commercial MSS systems), and current use by INMARSAT for global service. In addition, certain MSS allocations are shared with terrestrial services, including, as noted in this proceeding, fixed and broadcast auxiliary service. Thus, it is essential that the Commission adopt an allocation of at least 70 MHz for MSS at 2 GHz in the United States and support the United States proposals for modification of the international 2 GHz allocations at WRC-95.

¹¹ See IWG-3 Report, pages 13-16, which provides a detailed explanation of how this methodology is applied to determine needed MSS spectrum.

B. Final Action on the MSS Allocation Should Be Deferred Pending the Decisions at WRC-95.

While LQP appreciates the Commission's efforts to move forward on allocations for additional MSS spectrum, it recommends that any decision on a domestic allocation be deferred pending the results of WRC-95. As discussed above, the demand for MSS is likely to require MSS systems to utilize this allocation as soon as it becomes available. But, adoption of the Commission's proposal for 2 GHz MSS in all ITU regions at WRC-95 would have a substantial impact on the decisions for MSS operations and licensing under review in the NPRM. In view of the uncertain outcome of allocation decisions at WRC-95, LQP urges that the Commission defer further action in this proceeding on the domestic allocation until after WRC-95. At that time, the Commission should issue a Further Notice of Proposed Rule Making to take into account the actions of WRC-95 and to finalize the U.S. allocation.

Deferring action on the U.S. MSS allocation at 2 GHz would serve three beneficial purposes in the time period before WRC-95: (1) it will indicate to other administrations that the U.S. plans to consider the actions of WRC-95 prior to adopting a domestic allocation; (2) it will enable study of various options for migrating incumbent users from spectrum proposed for MSS; and (3) it will enable studies to be made of the feasibility of sharing between MSS and certain incumbents in the 2 GHz band.

Moreover, it would be futile to adopt rules in the United States for licensing

global MSS systems prior to decisions on the 2 GHz bands at WRC-95. Any domestic allocations adopted in advance of WRC-95 may require modification as a result of decisions at WRC-95, or the status of any domestic allocations may remain uncertain for several years if the issues related to 2 GHz are postponed until WRC-97. Therefore, a measured approach to the 2 GHz allocation would best enable the Commission to meet its goals of promoting MSS, providing minimal impact on incumbents and ensuring that revisions based on WRC-95 decisions can be addressed. No entity would be harmed by this approach because the current date of entry into force for the international allocation is 2005. Accordingly, LQP supports the proposed allocation of 70 MHz for MSS, but strongly urges the Commission to postpone making any decision on the allocation at least until (1) after WRC-95 has been completed, (2) a Further NPRM in the United States has been adopted, and (3) comments on the MSS allocation in light of the WRC-95 decisions and Further NPRM have been analyzed.

C. The Commission Should Act Now to Ensure that Additional Terrestrial Users Are Not Licensed in the 2 GHz Bands.

In the NPRM, the Commission provided only a skeletal description of the transition plan for the 2 GHz MSS allocation. LQP submits that pursuit of an allocation for 2 GHz MSS at WRC-95 and in the United States requires that the Commission put in place a plan which will permit an orderly and measured transition in the United States to MSS in the anticipated allocation in the 1990-2025 MHz and 2165-2200 MHz bands. While the specifics of transition remain to

be developed, there are certain steps which can be taken now as required for any transition plan aimed at clearing the spectrum for MSS.

First, in order to facilitate the transition of the band 1990-2025 MHz to MSS and to minimize the economic burden on incumbent users and MSS operators, the Commission should issue a public notice that it will not accept any new applications for operation in these bands on a primary basis pending the adoption of a final order in this proceeding. Imposition of a freeze on acceptance of additional applications for primary operations of broadcast auxiliary service (BAS) stations in the 1990-2025 MHz segment would facilitate the transition of existing services to other frequency assignments and ensure an orderly transition to MSS allocations over a 10-year period.¹²

In addition, the Commission should abandon its proposal to make the broadcast auxiliary and microwave allocations secondary only after an MSS operator requests mandatory relocation. NPRM, proposed footnotes NG 156 & 157. Rather, the existing terrestrial and broadcast auxiliary allocations should be made secondary on a date certain which would be specified when the Commission has concluded the MSS allocation proceeding and determined which frequency bands will be allocated. This modification of the transition plan, combined with a plan for migration filed in renewal applications, would serve the public interest by encouraging efficient operation and migration of incumbent services and

¹² The Commission has imposed a similar policy on the 2 GHz microwave service of accepting applications for new facilities on a secondary basis only. See First Report and Order (ET Docket No. 92-9), 7 FCC Rcd 6886, 6886-86 (1992).

promoting the implementation and growth of MSS in the band.

In summary, LQP recommends adoption of the following steps in the transition of the 2 GHz allocation to MSS:

1. New Applications. After the adoption of the Report and Order in this proceeding, no applications should be accepted for new licenses in the 1990-2025 MHz and 2165-2200 MHz bands for operation on a primary basis.

2. Incumbent Users. As of a date certain adopted in the Report and Order in this docket, or sooner as indicated by notice, all existing BAS and microwave licenses in the 1990-2025 MHz and 2165-2200 MHz bands and all license applications then pending for these bands should be deemed for secondary operations only.

3. Renewal Applications. After January 1, 2000, no BAS or microwave license should be renewed in the 1990-2025 MHz or 2165-2200 MHz bands except on a demonstration of impossibility of moving to another segment of the bands allocated for mobile TV pickup stations or for relocated microwave stations in the emerging technologies proceeding.¹³

4. Migration of Incumbents. With each application for license renewal filed after December 31, 1995, the applicant should be required to provide a plan

¹³ See Second Report and Order (ET Docket No. 92-9), 8 FCC Rcd 6495 (1993). It may be possible for MSS to operate co-frequency with the terrestrial microwave stations. Accordingly, the transition plan should provide a means whereby MSS and microwave system operators can agree on sharing the 2165-2200 MHz band. LQP's proposal for a Federal Advisory Committee in Section II(A) below would accommodate development of such a sharing plan.

for migration into another segment of the band allocated for mobile TV pickup stations or relocated microwave stations. Operations of the facility on the new frequencies should be granted to become effective on the date of the next renewal term.

II. ACCOMMODATING MSS SYSTEMS IN THE PROPOSED ALLOCATION REQUIRES DEVELOPMENT OF LONG-TERM USAGE ANALYSES AND TRANSITION SCHEDULES TO EFFECTUATE AN ACCEPTABLE SOLUTION FOR INCUMBENTS, MSS LICENSEES AND THE PUBLIC.

The NPRM proposes two interrelated migrations from the 2 GHz bands recommended for MSS operations. In order to clear the proposed MSS uplink band, existing licensees in the broadcast auxiliary services (BAS) assigned frequencies in the 1990-2025 MHz band would be migrated to the 2110-2145 MHz band. To accommodate BAS systems in this new allocation, the incumbent microwave licensees assigned paired frequencies in the 2110-2145 MHz and 2160-2195 MHz bands would be migrated to spectrum allocated for microwave users in the Commission's emerging technologies proceeding.¹⁴ These two migrations are viewed as necessary by the Commission based on its conclusions that MSS cannot share with either BAS or microwave systems, and BAS systems cannot share with microwave systems in the 2110-2145 MHz band. NPRM, ¶¶ 9-10.

LQP believes that the Commission should reconsider both the necessity of the migrations proposed in the NPRM and the procedures proposed to accomplish

¹⁴ See Second Report and Order (ET Docket No. 92-9), 8 FCC Rcd 6495 (1993).

the migrations. Migration of both BAS and microwave services would involve not only enormous costs but also complicated transition procedures. Without presenting any support for its conclusions that migration is necessary, and with only a brief discussion of proposed options to this plan, the Commission suggests that the burden of the cost and risk of a successful transition should be borne by "displacing MSS providers." NPRM, ¶ 11.

LQP strongly believes that this is the wrong approach to the 2 GHz allocation. Identifying how the migration costs could be equitably apportioned among the potential MSS providers raises complicated issues which alone require substantial time for study. Moreover, there are potentially simpler options than migration; these options should be studied by interested parties before migration is mandated. Under the circumstances, LQP recommends that the Commission take a step back and allow industry representatives time to study the proposed allocation and to develop a plan for the most effective and efficient means to accomplish the transition.

A. **The Commission Should Establish a Federal Advisory Committee to Review and Resolve Transition Issues.**

Initially, LQP submits that the issues raised by the transition to an MSS allocation in the 2 GHz bands are sufficiently complex and long-term so as to warrant convening of a Federal Advisory Committee (FAC). See 5 U.S.C.S. App. Federal Advisory Committee Act, §§ 1 et. seq. The issues raised by the MSS allocation at 2 GHz require development of information on policy and technical

issues and advice on a transition plan with input from the affected parties. An FAC is an excellent vehicle for the Commission to develop solutions to the complex issues raised by the transition

The Commission convened an FAC with great success in analogous circumstances for developing policies and standards for the implementation of Advanced Television Service (ATS).¹⁵ In the ATS proceeding, as with 2 GHz MSS, the Commission was faced with complicated issues regarding spectrum allocations, transitions from one service allocation to another, and policies and standards for the new broadcast service.¹⁶ Here, the Commission must resolve complex issues regarding spectrum allocations for three different services (BAS, MSS and terrestrial microwave), develop policies and technical standards for MSS at 2 GHz, and initiate a long-term transition plan which will impose the least disruption to existing services and, at the same time, permit the most efficient implementation of new MSS services.

The issues in the NPRM mirror the issues described as the objective for the ATS advisory committee:

Scope of activity: All steps necessary to assemble information, analyze information, deliberate upon appropriate policies and actions, and develop recommendations regarding the introduction of terrestrial advanced television service. Includes technical, economic, legal and regulatory issues.

¹⁵ See Formation of Advisory Committee on Advanced Television Service, 52 Fed. Reg. 38523 (Oct. 16, 1987).

¹⁶ See Notice of Inquiry, 2 FCC Rcd 5125 (1987); Tentative Decision and Further Notice of Inquiry, 3 FCC Rcd 6520 (1988).

52 Fed. Reg. at 38524. Given the importance of new MSS services to implementation of a seamless nationwide wireless communications system,¹⁷ LQP recommends that the Commission seek the advice and recommendations of an FAC to find the best regulatory structure for 2 GHz MSS.

B. The Commission Should Reserve Judgment on Migration of BAS and Microwave Systems Pending Further Study.

In the NPRM, the Commission concluded that it would be necessary to relocate existing BAS users in the 1990-2025 MHz band to another 35 MHz segment in order to make the band available for MSS. NPRM, ¶ 9. Even assuming that BAS and MSS cannot operate co-frequency at 1990-2025 MHz, the proposal to migrate BAS to 2110-2145 MHz is based on conclusions which are not supported by the discussion in the NPRM.

First, the NPRM provides no information concerning an analysis of the need for existing users in the 1990-2025 MHz band for equivalent spectrum of 35 MHz bandwidth. As the Commission points out (NPRM, ¶ 13), even after reallocation of 1990-2025 MHz, there would remain 85 MHz of the spectrum allocation for mobile TV pickup stations at 2025-2110 MHz. If existing licensees in the 1990-2025 MHz segment are not making full use of the 35 MHz, then there is no reason to provide replacement bandwidth of 35 MHz. A more appropriate transition plan

¹⁷ See Chairman Hundt, Speech to the World Telecommunication Development Conference (Mar. 22, 1994) ("Satellite technology offers opportunities to build a global, seamless connection among all networks"); Vice President Gore, Speech to the International Telecommunication Union (Mar. 21, 1994).

may be to require BAS incumbents to vacate the 1990-2025 MHz band and move into the 2025-2110 MHz band. This internal relocation plan should be explored as an alternative to the complicated migration plan proposed in the NPRM for mobile TV pickup stations.

Second, as the Commission is well aware,¹⁸ future spectrum needs must be evaluated in light of the efficiencies to be gained by digital operations. Over the next decade, substantial changes will occur in the telecommunications technology as a result of development of digital technology. Reallocating 35 MHz of spectrum to replace an existing 35 MHz allocation makes no sense in a digital world. In fact, it would be a poor policy precedent for the Commission simply to concede without detailed study in an allocation proceeding that bandwidth allocated for analog operations must be replaced by an equivalent amount of spectrum for digital operations, kHz by kHz. If the Commission adopts such a policy here, it will lay the groundwork for challenges to all future proceedings in which the Commission attempts to require licensees to use allocated spectrum more efficiently based on the availability of digital technology.

In raising this issue, LQP does not contend that digital technology is currently available which would permit elimination of the 1990-2025 MHz segment as an allocation for BAS. Rather, LQP notes that these alternatives were not sufficiently explored in the NPRM. Recognizing the complexity of the issues,

¹⁸ See Chairman Reed E. Hundt, Speech to National Association of Broadcasters (Apr. 11, 1995).

LQP recommends that the Commission refer the relocation issue to an FAC which would consider, as one of many issues, the spectrum needs of existing users in the 1990-2025 MHz band by the date of entry for MSS.

With respect to microwave stations in the 2165-2200 MHz band, the Commission has not provided any demonstration that MSS systems cannot share with microwave users in the 2165-2200 MHz band. LQP has conducted numerous studies of sharing between MSS operations and terrestrial microwave stations in other frequencies below 15 GHz.¹⁹ These studies have demonstrated that such sharing is feasible. Therefore, it may be possible to grandfather existing users on a co-primary basis in the 2165-2200 MHz band, again avoiding substantial costs and certain controversy arising from relocation. Sharing between microwave and MSS systems is another issue which could be referred to a 2 GHz FAC for development of coordination techniques and/or a proposal for migration.

C. The Involuntary Relocation Procedures Adopted for PCS Are Inappropriate and Infeasible in the Context of MSS.

In the NPRM, the Commission proposes to adopt the involuntary relocation procedures developed for PCS as the model to govern clearing the 2 GHz bands for MSS. NPRM, ¶ 11. Again, LQP recommends that the Commission reconsider this proposal and refer to a Federal Advisory Committee the procedures to be used for

¹⁹ See, e.g., LQP Comments (CC Docket No. 92-166), Tech. App. § 2 (filed May 5, 1994); LQP Reply Comments (CC Docket No. 92-166), Tech. App. § 2 (June 20, 1994).

any relocation that may become necessary.

The PCS procedures simply will not work in this context because PCS represents a completely different licensing paradigm from MSS. The Commission has adopted licensing rules for PCS stations which involve discrete band segments assigned to specific geographic areas. In each geographic area, there may be only one PCS licensee using the spectrum assigned to an incumbent microwave station. Thus, the need for and cost of relocation is readily apportioned to the "displacing PCS provider." And, for an auction of PCS spectrum, each bidder can take into account the magnitude of displacement costs for the specific PCS segment in a geographic area.

No aspect of this model is true for MSS because the benefit of displacement of specific BAS and microwave stations cannot be so easily apportioned to a single "displacing MSS provider." Just a few of the questions raised are discussed below:

Who is a displacing MSS provider? BAS and terrestrial microwave users are located across the country and in various frequency blocks. For MSS, the Commission proposes to award national licenses by auctioning spectrum segments which could be smaller than BAS and microwave assignments. NPRM, ¶ 17. The segments awarded for MSS thus may not correspond to existing frequency assignments for terrestrial services. As a result, MSS licenses may overlap with but not completely encompass the assigned frequencies of a BAS or microwave incumbent.

Moreover, with the use of appropriate access technology, MSS licenses may

be assigned on a co-frequency shared basis. Were such licensees required to pay for relocation of incumbent terrestrial systems, then they would have to apportion the cost based on some to be determined equation.²⁰ In short, it is impractical for the Commission to expect that there will be an identifiable "displacing MSS provider" for each incumbent terrestrial licensee under the proposed MSS licensing plan.

Which MSS licensees pay? Because there is unlikely to be a one-to-one correspondence between incumbent terrestrial system and MSS licensee, the Commission would need to develop a procedure for equitable allocation of relocation costs. Many factors would have to be considered in such an allocation, including, for example: how much spectrum each MSS licensee holds; whether the MSS licensee is authorized for exclusive or shared use of the spectrum; whether a premium should be placed on spectral efficiency to equalize the benefits of contributions to relocation; whether date of launch should be a factor in the costs allocated to an MSS licensee. In order to resolve these issues, the Commission needs input from representatives of the MSS, BAS and microwave industries.

How would foreign MSS licensees contribute? The Commission has under consideration the conditions under which foreign MSS systems should be

²⁰ For example: Should more efficient systems pay less? Should the number of antenna beams in which the frequency is reused make a difference? The only certainty in such circumstances is controversy.